

Several cases are mentioned in which there is great difference of zoarial shape, and also some in which there is great range in the zoecial characters.

The discovery of *Catenicella* in these beds is of considerable importance, which is enhanced by one of the species having both short beads and longer internodes.

Porina coronata and *Lepralia syringopora* both have a closure, formed by a plate with a tubule in the centre, a structure supposed to be exclusively characteristic of the Cyclostomata.

The position of the beds has been established by Suess, Bayan, Hébert, and Munier-Chalmas, of Bartonian age, and may therefore be called Upper Eocene.

MISCELLANEOUS.

WILLIAM SWEETLAND DALLAS.

IT is with deep regret, which we are sure will be shared by our readers, that the name of one who has for so many years taken a most active part in the conducting of this Magazine disappears from the titlepage. Our dear friend became one of the Editors in 1868; but long before this he had rendered the greatest service in bringing to the knowledge of British Naturalists the most important researches of Foreign investigators.

For some time past his health had been failing, and on the 29th of May he passed away, to the sad grief of his family and a large circle of friends.

WILLIAM FRANCIS.

Description of a new Cottoid Fish.

By TARLETON H. BEAN, Ichthyologist, U. S. Fish Commission.

On the 27th of September, 1888, the U. S. Fish Commission steamer 'Albatross' obtained in Barclay Sound, British Columbia, a remarkable little fish whose affinities are with the *Cottidae*, but differing from all the other members of the family in characters of such importance as to necessitate the formation of a new subfamily to receive it. The description is given herewith.

Subfamily SYNCHIRINÆ.

Cottidæ with ventral fins thoracic, but remote from the gill-

opening and consisting of a rudimentary spine and several rays; with a short and well-developed spinous dorsal, which is separated by a deep notch from the soft portion; the spines slender; the branchial apertures wide and the gill-membrane free from the isthmus; gills $3\frac{1}{2}$, apparently with no slit behind the last; the pectoral fins continuous around the breast, the rays supported all around by actinosts; the genital papilla of males capable of being received into a pit in front of the anal fin.

SYNCHIRUS, gen. nov.

Body slender and moderately elongate, resembling that of *Tri-glops*; covered with thin, tough skin. Lateral line armed with spiny tubercles. Spiny scales in a series along the dorsal base. Head subconical, with moderately pointed snout. Mouth small, very slightly oblique; the rami of the mandible a little concave beneath. Premaxillaries protractile. Jaws with slender, villiform teeth in bands. Teeth on vomer and palatines. Pseudo-branchiæ present. Gills $3\frac{1}{2}$, no slit behind the last. Gill-openings wide, extending above the median line, the membrane free from the isthmus. Suborbital connected by a bony stay with the preopercle, which bears a strong bifid spine at its angle. Pectorals completely united around the breast, all the rays supported by actinosts, the membrane free at its margin. Ventrals distant from the gill-opening, the pubic bones being remarkably long, the fins diverging widely and consisting of a rudimentary spine and three rays. Dorsal long, the spinous portion low, with slender spines, and the soft portion twice as long as the spinous. Anal long. Caudal moderately elongate, its middle rays somewhat produced.

Synchirus Gilli, sp. nov.

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The eye is about as long as the snout and $\frac{1}{4}$ the length of the head, which is $\frac{2}{7}$ of the total length to caudal base. The depth is contained $5\frac{1}{2}$ times in the total length. The maxilla extends to about below the middle of the eye. The interorbital space is not quite equal to the length of the eye. There is a pair of strong nasal spines. The preopercle has a short and very sharp bifid spine. The lateral line contains about 41 spiny tubercles, and most of the specimens have a single series of spiny scales along the dorsal base. The pectorals are nearly as long as the head, and extend to about below the fourth ray of the soft dorsal. The ventrals are nearly under the middle of the pectorals and their length varies greatly. In some specimens they are scarcely $\frac{1}{2}$ as long as the head; in others they are as long as the postorbital part of the head. In some males the anal papilla is $\frac{2}{3}$ as long as the ventral fin of the same individual. This papilla can be received into a pit in front of the anal fin.

The spinous dorsal begins over the axil of the pectoral; the

length of its base is a little greater than the postorbital part of the head. None of its spines are much longer than the eye.

The distance of the anal origin from the head is about $\frac{2}{3}$ the length of the head. The rays of the soft dorsal and the anal are not much longer than the dorsal spines.

The caudal is about $\frac{2}{3}$ as long as the head, and its middle rays are somewhat the longest.

The colour in spirits is a pale yellowish brown. The sides show traces of several small pale blotches, and the caudal and pectoral have a few very small dark blotches, those on the caudal forming interrupted bands. Across the back are faint indications of about five pale cross bands.

The species is dedicated to Dr. Theodore Gill, in appreciation of his researches upon the mail-checked fishes.

Three individuals have been taken as the types of the species. The largest is 46 and the smallest 38 millimetres in length.—*Proceedings National Museum*, vol. xii. No. 787. Advance sheet communicated by the Author.

Model of the "British Marine Area."

By the Rev. Canon NORMAN, M.A., D.C.L., F.R.S., &c.

SINCE writing my notes on the "British Marine Area," which appeared in the 'Annals' for May (pp. 345-353), I have learned that a model of sea around the British Islands had been executed by Mr. James B. Jordan, of the Mineral Statistics Branch, Home Office, and was in the South Kensington Museum of Science and Art. That model I have now had the pleasure of seeing. It has been carefully and well executed, and cannot but prove very instructive to those who examine it. At the same time it necessarily leaves much to be desired. The executor has unavoidably been obliged to draw on his imagination in filling in many details, where no soundings had been taken from which to work his model. The most important place which thus lacks accuracy is the district to the west of the north of Ireland and south of Scotland, and thence to the Rockall Bank. Now the hydrographer in his chart has not ventured to define the 1000-fathom boundary even roughly at this part; the dotted line which indicates that depth stops abruptly opposite Donegal Bay, and no attempt is made to trace it further to the north. The modeller could not thus stop, and has been obliged to supply the deficiency as well as he could. It is just in this part that we have one of the most interesting features in the outline of submarine Europe, where a tongue of the great abyss approaches nearest to our shores. The exact form of this tongue and of the slopes which surround it should be accurately surveyed. But while this is the most important district which awaits elucidation, it is at the same time much to be wished that a far more extensive series of soundings should be taken in 500 to 1500 fathoms all round the western coast.

May 27, 1890.